

# W5YI REPORT

Up to the minute news from the worlds of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable. May be reproduced providing credit is given to The W5YI Report.

## Dits & Bits

Fred Maia, W5YI, Editor, P.O. Box 10101, Dallas, TX 75207

### ★ In This Issue ★

Hams Get New Microwave Bands!  
New Radio Services Considered  
Supreme Court & AM Power...  
Programmable Radio Rulemaking  
Update on Privacy Act of 1985  
November VE Program Statistics  
New Band Plans Contemplated  
On Satellite Broadcasting  
Home Computing News  
University Offers Ham Course  
50th Birthday of the 6L6!  
and much, much more!



VOL. 8, Issue #2

\$1.50

PUBLISHED TWICE A MONTH

January 15, 1986

## Amateurs Granted New Microwave Access

The FCC released an Order making certain frequency changes to the Amateur Radio Service. Basically the proceeding nails down WARC approved microwave ham bands that will prove very important to the Amateur Radio Service in years to come.

Although approved by the Commission on January 3, 1986, the Order was not made public until January 10th ... too late for our deadline. We telephoned Ray Kowalski (Chief of the FCC's Special Service Division) to get a run down on PR Docket 85-23.

"It's paradoxical in a way," Kowalski said. "It affects a great many of the amateur bands in that the various technical limitations have been reworded, restated, clarified and the like. And yet its overall impact is probably not going to be noticed by the average amateur. Many of the changes are very technical. The involved amateur bands are little used today ...and little known."

At the time that the NPRM on the issue was filed, the only controversial matter in it had to do with the 1900-2000 kHz segment of the 160 meter band being primarily assigned to the Radiolocation Service with amateurs remaining secondary. "That issue has already been put to rest," Kowalski said. "As far as I know, there is nothing untoward, unexpected or controversial in the Commission's January 3rd action."

The Commission has added the 47.0-47.2 GHz, 76-81 GHz, 119.98-120.02 GHz and 142-149 GHz microwave frequency bands to Part 97.7 of the rules for the Amateur Radio Service. The newly adopted rules also remove the 1215-1240 MHz, 48-50 GHz, 165-170 GHz and 240-241 GHz frequency bands from the Amateur Service.

These changes were necessitated due to WARC-79 changes in the international table of allocations or FCC implementation of stated WARC "footnotes." For example, 1215-1240 MHz is now primarily allocated to the Government Radiolocation and Radionavigation (space to earth) Services.

It was well known that all of the other new bands would eventually be added to the Amateur or Amateur Satellite Service - either on an exclusive or secondary basis. Little importance has been placed on them, however, by most of the amateur community since these bands are unknown to most amateurs and essentially not used by anyone today. They could become all important as ham use of space communications expands and amateur microwave technology develops.

While the majority of the Order covers spectrum in the microwave area, there are some changes in the technical limitations. "Those changes affect virtually every frequency band," Kowalski said. "For example,



the way in which we had stated the rights and responsibilities of amateur stations which are primary in a band, co-primary or co-secondary have been reworded to make plain the principles that govern [their operation.] That kind of rewording has affected several other bands other than those in the microwave area. To say that the action affects only spectrum 1 gig and up is not totally accurate."

By adopting this Order, the FCC has now completed implementation of the Final Acts of the World Administrative Radio Conference, Geneva, 1979, which comprise an international treaty and which were ratified by the United States on September 6, 1983. The FCC action becomes effective on March 1, 1986.

## TWO NEW RADIO SERVICES CONSIDERED

Since I had Ray Kowalski on the phone, I asked him about the status of two petitions for new (non-amateur) radio services. Both services were proposed by amateurs, however. The Personal Radio Steering Group, a GMRS organization, is headed up by Corwin D. Moore, Jr., WB8UPM, of Ann Arbor, Michigan.

The group asked the FCC to phase in a changeover of the 8 channel 460-MHz GMRS to a 79 channel narrow band "Personal Mobility Radio Service." PMRS would use trunking (automatic assigning of stations to vacant channels) and become fully operational within ten years.

The other service was petitioned for by Don Stoner, W6TNS, of Seattle. He suggests a "Public Digital Radio Service" - a packet radio message service for the masses. Although he asks that 2 MHz of the 6-meter band be used, PDRS would essentially be a non-amateur service in that licenses, call signs and tests to gain access to the band would not be necessary.

"Yes," Kowalski said, "the Commission is actively considering these two proposals but don't read any more into that other than that. A better way to say it is that the FCC did not dismiss those petitions out of hand. The Commission is letting the interested parties - amateurs and non-amateurs alike - have

their say about them. The Commission has not adopted any Notices of Proposed Rulemaking. Further action will depend upon the comments and the reply comments during this initial preliminary period."

"The ARRL came in vigorously against the Stoner proposal. The Association of Maximum Service Telecasters filed a pleading in opposition to it." (Actually both stances were anticipated.) The FCC is now awaiting a reply response from Don Stoner. "We are letting people file their views. Where it goes from there is anybody's guess."

## ON OTHER AMATEUR RULEMAKING, ISSUES

On amateur rulemaking: "We are feeling the effects of the year end doldrums ...the end of the year slowdown having to do with the availability of people. A more normal case will resume shortly. We have a full schedule of work."

On turning over amateur radio operator test design to VE's and question pool maintenance to VEC's.... "I think that something definitely will be coming out on that this winter. By the end of March I would expect that will be ready.

On Novice Enhancement: "That issue is a little further off. "We have that scheduled to work on, but it won't be ready to go [before the Commission] before summer ...possibly by July. There is some opposition to it ... mostly from individuals ...people who see Novice enhancement as a dilution of their privileges. It is a popular issue ...but not overwhelmingly popular."

## SUPREME COURT AND AM POWER LEVELS

Glenn Baxter, K1MAN (Belgrade Lakes, Maine), has further appealed "AM power reduction" in the Amateur Radio Service to the U.S. Supreme Court. The issue to be decided is "whether Constitutional rights have been violated by arbitrary reduction of AM power to one half while CW, RTTY, SSTV and FM power was more than doubled and SSB was increased by about 300 watts." Baxter sent out a press release more or less indicating that the Supreme Court would hear the



appeal. If true, it would mark the first time in history that an amateur radio matter ever went this far.

The Baxter press release called FCC statements on the matter "misleading." Baxter said the real issue is whether it is "reasonable to discriminate against 1% of the ham population" when "nobody else is hurt along the way." The Baxter press release was also critical of the ARRL for neither intervening or even mentioning the litigation in QST. "So much for the League being of, by and for the Radio Amateur", he said. His press release was dated December 18, 1985.

I asked Ray Kowalski about this. He said the Baxter release was not exactly accurate. "He has until March to file his petition requesting the Supreme Court to take the case. In so far as his press release indicating that the Supreme Court has agreed to hear argument and make a decision on it, ...well, that is not entirely accurate. The case has not been accepted by the Supreme Court for argument."

## PROGRAMMABLE BUSINESS BAND RADIOS...

Although not nailed down yet, we understand that the FCC's Private Radio Bureau is considering rulemaking that would deny FCC type acceptance equipment approval to any programmable business band radio transceiver that allows a user to program a frequency other than spectrum to which it has operating authority.

Of particular concern are land mobile radios where a licensee is authorized to operate on a specific frequency. Reportedly, interference to authorized users is being caused by incidents of unlawful end-user frequency programming.

Manufacturers have found that with the introduction of frequency synthesis technology, that they can manufacture one radio that can be used by all users in a service. It is also less costly to manufacture and service.

PRB's Bob Foosaner is on record as warning land mobile radio users that they had better clean up their act or risk the FCC

intervention. The FCC wants manufacturers to stop making business band receivers that can easily be frequency modified by users from the front panel.

¶ Flying Fones to continue! Airfone has been given a two year extension of its \$93 million experimental airliner-to-ground telephone network. The service was due to expire last month. The new temporary authority allows air-to-ground service through December 1987. Airfone, Inc., is in the process of developing a satellite based telephone network

## UPDATE ON PRIVACY ACT OF 1985....

Despite opposition from many avenues, the Electronic Communications Privacy Act bills (H.R.3378 in the House and S.1667 in the Senate) are still under active consideration. The information that we have is that these bills will probably become law within six months - although its final form is still unknown.

These bills claim to address the problem of high tech communications privacy not covered in previous legislation when widespread digital and cellular technology were not yet developed. These bills have far reaching implications and warrant careful attention by the radio hobbyist since they place restrictions on what you can or can't listen to coming over the airwaves.

Make no mistake about it, the bills are aimed primarily at making it unlawful to listen to private cellular telephone calls but many other services are included. Supposedly amateur radio activity is specifically exempted from the legislation - but it still will be illegal for an amateur to stray (listen) too far from his assigned spectrum. Amateurs can own receiving equipment, but there will be many "windows" that will be off limits. A dangerous precedent.

Cellular interests are not concerned about "walkie talkie" (words right from the bill) or police communications.. They too are excepted from legislative coverage along with amateur and CB communications. Thus it is legal to eavesdrop on any police radio surveillance... or military or government hand-held



radio communications for that matter - but not your local taxicab dispatching service. A very strange circumstance indeed!

There is also a serious problem in defining what is "readily accessible to the public." The bill (and we quote verbatim) says that "It shall not be unlawful ...for any person to intercept an electronic communication made through an electronic communication system designed so that such electronic communication is readily accessible to the public."

The key word seems to be designed. In other words if the communication is not intended for general reception by the public, then it is illegal to receive it. If that is the correct interpretation, then scanner users might as well junk their receiving equipment. In actuality, all radio transmissions - unless encrypted in one way or another - is readily accessible to the public.

Cellular interests, however, claim that cellular phone calls are not readily accessible since mobile calls are handed off to another cell (and frequency) as the mobile vehicle passes through. The fact remains, however, that many calls are made without hand-off. Even if the call does change frequency it usually remains for a minute on any specific frequency which is readily accessible. It is obvious that there are serious problems with the bill.

## BUSINESS RADIO USERS OPPOSED TO BILL!

NABER, the powerful National Association of Business and Educational Radio, has come out as being opposed to the Privacy Act of 1985 as it now stands. They correctly state that because private radio frequencies are shared by many business users, it will be illegal for a licensed user to listen to an ongoing communication on his FCC assigned frequency by others licensed to the same channel.

Jay Kitchen, NABER's president, also said that the only way a potential licensee can tell whether or not a particular frequency is the best frequency available is to monitor other users on that frequency before applying to the FCC for a new license.

Kitchen also maintains that it is frequently necessary to monitor various radio systems to ascertain technical problems and interference affecting land mobile communications.

## IMPACT ON SCANNER USERS ...INDUSTRY

The proposed bill greatly impacts scanner hobbyists and manufacturers since it will be illegal to freely listen to a radio receiver. It is estimated that 8% of the U.S. population has multi-frequency scanning radio capability. The penalty for violations of the scanner law is set at up to \$250,000 and/or a year in jail for the first offense.

As a group, SWL's feel that banning radio frequencies is like banning guns. Millions of scanners and guns are in the hands of the public. Persons intent on illegal activity are not deterred when scanners and guns are everywhere. The proposed law is completely unworkable and unenforceable.

Ownership of receiving equipment without restriction has always been a traditional American right. Airwaves by their physical nature are totally public. They are everywhere! A dangerous precedent could be set which could be expanded in the future at the request of numerous other special interests. Scanner users wonder if books will be next.

Most radio hobbyists believe that cellular phone service providers have an obligation to tell their customers that non-encoded open radio transmission is subject to interception. Cellular phone companies who wish to provide truly "private" mobile phone conversations have the option to use existing technology to scramble or otherwise encode those conversations. Banks certainly don't leave their vaults open when it is not proper to take what is not yours.

Constitutional issues are also involved. The Supreme Court observed a few years ago that "It is now well established that the Constitution protects the right to receive information and ideas." The hearings on the two bills continue. Those in favor of the legislation have had their say. Now, those opposed will get their turn. We will keep you posted.

THE ANSWERS TO ALL FCC TESTS ARE AVAILABLE!  
FCC-Novice Study Guide \$3.00 + \$1.00 postage  
FCC-Novice Element 2 Test \$1.00 + 50¢ postage  
The W5YI Report, even though a VEC in all regions has been given permission by the FCC to distribute

Yes!



## NOVEMBER VE PROGRAM STATISTICS....

|                           | 1984   | 1985   |
|---------------------------|--------|--------|
| No. of VEC's:             | 50     | 77     |
| No. of Testing Sessions:  | 89     | 286    |
| No. of Elements Admin.:   | 2240   | 4338   |
| ARRL-VEC                  | 55.8%  |        |
| W5YI-VEC                  | 9.9%   |        |
| C.ALA-VEC                 | 8.3%   |        |
| DEVRY-VEC                 | 5.2%   |        |
| BEARS-VEC                 | 4.3%   |        |
| All Others                | 16.4%  |        |
| No. of Applicants Tested  | 1493   | 2986   |
| Pass (Upgrade) Rate       | 47.86% | 60.86% |
| No. Persons per Session   | 16.78  | 10.13  |
| No. Elements per Person   | 1.50   | 1.50   |
| No. Test Sessions per VEC | 1.78   | 3.71   |

## VOLUNTEER PROGRAM ERRORS REDUCED

The FCC's licensing facility in Gettysburg reports that the number of errors made on FCC Form 610's and volunteer test session reports continues to drop. The FCC keeps track of the percentage of mistakes verses total applications submitted by VE and VEC's. The figures for the last seven months....

| Month:           | Defective<br>Applic. | *Late<br>Filings | Defective<br>Reports |
|------------------|----------------------|------------------|----------------------|
| April - 1985     | 3.48%                | 27.55%           | 16.60%               |
| May - 1985       | 3.78%                | 2.13%            | 5.79%                |
| June - 1985      | .85%                 | 0.24%            | 4.35%                |
| July - 1985      | 3.78%                | 2.13%            | 5.79%                |
| August - 1985    | 1.21%                | 0.33%            | 3.93%                |
| September - 1985 | 1.23%                | 3.32%            | 2.49%                |
| October - 1985   | 1.51%                | 2.72%            | 4.42%                |
| November - 1985  | 0.66%                | 1.40%            | 2.10%                |

[\*=Late filings are those where the VE or the VEC has taken in excess of ten days to return applications.]

It has been reported to us that a number of amateurs upgrading using Certificates of Successful Completion from previous test sessions as evidence of passing an examination element are under investigation for possible use of fraudulently obtained certificates.

Larry Weikert, of the FCC in Gettysburg told us that some Certificates bear names of VE's that do not match the VE's signing applications in the original test session. This can

happen when more than three volunteer examiners are used - but only three VE's sign the 610's. While not required, it is a good idea to have the same three volunteer examiners sign the Certificates of Successful Completion that sign the application forms.

## ON ACCREDITING VOLUNTEER EXAMINERS

Two questions have recently surfaced on the accrediting of volunteer examiners who administer amateur radio testing. These concern whether a VEC is actually required to accredit everyone and the use of VE's accredited under other VEC programs. I recently asked the FCC's Ray Kowalski about this.

(1.) Is a VEC required to accredit a potential volunteer examiner who appears to be statutorily qualified. The rules state that accreditation can not be denied solely because of race, sex, religion, national origin, accepting or declining reimbursement or membership status in a ham group. The key word is solely.

(FCC) "You don't have to accredit everybody. We recognize that some VEC's have a capacity which is greater or less than other VEC's. You don't have to take everybody that applies and you don't have to keep everybody you have accredited. You can drop people. Dis-accrediting is not the same as discrediting."

(2.) On accepting Certificates of Successful Completion and VE's from other volunteer examination programs. Neither is specifically sanctioned in the rules.

(FCC) "A VEC has the responsibility to accredit people that apply to him. How this is accomplished is up to the VEC. It is acceptable if the VEC is comfortable in accepting evidence of accreditation from another VEC. It is not carved in stone how accreditation is to be accomplished. The important point is that a VEC must have a basis upon which to make a determination that a particular individual can be accredited in his program. It is also acceptable to accept Certificates of Successful Completion from another VEC program."

The last question came up when we



January 15, 1986

used an ARRL accredited VE when one of ours had to cancel at the last minute and another VE was needed to conduct the session. We accepted the willing VE and accredited him after the test session. Effective immediately our program will accept any VE that has evidence in his possession of being accredited by another FCC approved VEC.

W5YI VE's should carefully review the accreditation document of the examiner and the VE's Extra Class amateur radio operator license. A photocopy of each should be submitted along with the successful applications being forwarded to the VEC. We will also forward the VE one of our accreditation documents.

¶ The ARRL-VEC office has published a flyer entitled "What to Study?" Its purpose is to notify ARRL ham test applicants which license preparation material to use. The League will begin using the new test questions as follows:

| Test Element:        | Test Change Date: |
|----------------------|-------------------|
| 3 Technician/General | April 1, 1986     |
| 4A Advanced Class    | August 1, 1986    |
| 4B Extra Class       | October 1, 1986   |

In the interest of standardization (many applicants attend both ARRL and W5YI test sessions) we will change over on these dates also.

¶ By the way, the League has a new VEC Manager. Curt Holsopple, K9CH, is out. He was transferred to another department. Jim Clary, WB9IHH, (formerly the Holsopple assistant) took over running the VEC operation as of the new year. This change was only one of many high level shifts at ARRL.

¶ It's not too early to start planning for the Dayton HamVention to be held the weekend of April 25, 26 & 27. It's the world's largest amateur radio hamfest, by far. The hotels get booked up early and airline flights get expensive if you wait too long. Piedmont Airlines offers a Dayton HamVention fare - 35% discount off of their regular coach ticket but their "Ultimate Super Saver" is even better. Seats are limited and must be booked 30 days in advance of departure. Call: 1-800-334-8644 (toll free) for info. Most other airlines also offer a similar rate.

¶ Revolution coming to Michigan? We got a letter (and a couple of strong phone calls) from Michigan VHFers stating that the band plans we printed in our December 15th report were far from "nailed down." There also seems to be a difference of opinion over the ultimate fate of their 20-kHz 2-meter band plan. Len Todd, N8AGS, president of the Western Michigan Packet Radio Association, indicates that there is a campaign underway to revert back to 15-kHz spacing. He called the Michigan band plans that we were furnished with "another attempt by city folks to ramrod another situation on the amateur community..."

### NEW 33-CM BAND PLAN IN S. CALIFORNIA

Meanwhile, Southern California has adopted a new 33-cm, 902-928 MHz band plan. While deviating from the ARRL Interim Plan, it does retain its general outline. The southern California 33-cm band plan allows more spectrum for repeater stations - 155 verses 119 in the ARRL plan.

It was agreed at a meeting held by the frequency coordinator (Southern California Repeater and Remote Base Association) that the repeater band would be 905-909 MHz (Output) and 917-921 MHz (Input). The ARRL plan calls for 907-910 MHz (Input) with 919-922 MHz (Outputs). The inputs and outputs were reversed to protect mountaintop receivers from being bothered by land mobile service 450 MHz (second harmonic) energy.

The SCRRBA scheme allows for coordination of 155 repeaters verses 119 in the League's plan. Both plans are for channelized operation on 25 kHz centers. The 33-cm plan is the first adopted in California.

### COLVINS OPERATE FROM LESOTHO!

We got another note from Lloyd and Iris Colvin (W6KG & W6QL), the globe-rotting DX couple, written over the holidays from the Kingdom of Lesotho (Africa.) They made some 5,000 QSOs from there to amateurs in 137 different countries.

Iris said that they were set to operate from a gambling casino hotel room but "for



the first time, ...had to set up our whole station and antennas twice in one country."

"The hotel manager allowed us to put our antenna on an unused portion of the hotel some 600 feet from the Main Casino Lounge and unoccupied hotel rooms." A vacant hotel room became the ham shack.

After set up, however, severe receiver interference caused by a 33,000 volt power line caused them to relocate their station at the main entrance to the hotel grounds some 1200 feet away. "The double insallation took us two days of hard work," Iris said "and in addition, we both got serious sun burns."

The DXers are now headed to the Kingdom of Swaziland where they will operate as 3D6QL.

## RSGB AMATEUR TESTING INQUIRY....

We received a letter from the Radio Society of Great Britain's Martin Atherton, G3ZAY of Cambridge, England. He is chairman of their HF Committee and inquired about the possibility of our VE program testing British amateurs in the United Kingdom for American amateur licenses.

We have written Martin back advising that we have an accredited American amateur radio operator testing team in Harrogate, (near Leeds) England. They gave tests there last month, in fact. Harrogate is quite some distance, however, from Hertfordshire (near London) where the RSGB has their headquarters.

Atherton thinks it would be fun for Britons to take some U.S. amateur radio operator examinations at one of their national gatherings "and for those who are regular visitors to the States the opportunity to obtain a full U.S. license." He asked for our help.

There are no FCC prohibitions against testing foreign nationals as long as they can supply an American mailing address, U.S. station location and are not a representative of a foreign government. We are checking to find out if this can be a temporary location such as the British embassy/consulate or a

hotel site. Interestingly, we also can find no prohibition against accrediting alien VE's to give U.S. ham exams as long as they meet the statutory requirements.

A very big side benefit of regular American (rather than reciprocal) amateur licenses is that visitors from the U.K. will be allowed to operate in the "prohibited" 146-148 MHz 2-meter band. While not generally known, U.S. operation under a reciprocal amateur license is prohibited when a foreign amateur can't operate on similar spectrum in his own country. ITU Region One 2-meter amateur allocations are 144 to 146 MHz only. This precludes "G's" from operating on most 2-meter repeaters while visiting here in the states.

## HIGH TECH COMES TO NFL FOOTBALL....

While being low keyed, look for this fall's exhibition NFL football games to include the addition of an additional "super" official. A special "overruler" will be situated in the press box to instantly review all controversial calls. This official will be empowered to overrule blatant mistakes by on-field officials.

The mechanics have yet to be ironed out, but a permanent system could be in place in time for the 1986 season if the experiment works out. The idea is to allow game officials to obtain the same information that the home-viewing audience gets via instant replay.

NFL officials are not sold on the system since their decisions are rejected rather than instant replay information being made available to them. And the networks are less than excited about being saddled with additional "officiating" responsibilities. They fear "coverage standards" might develop.

All August pre-season NFL contests will have regular viewer instant replays immediately available for review and possible rejection of a call. Regular season games, however, will require beefed up coverage. The first game to use the instant replays will be the Dallas Cowboys-San Diego Charger August 17th pre-season game. The press box official will have 20 seconds to issue a veto or the first judgement stands! The NFL's supervisor of officials will be the first "overruler."



## SATELLITE BROADCASTING NEWS ROUNDUP

¶ **More High-Tech Football!** The USFL, having trouble landing network TV coverage, has bought a berth on a satellite scheduled to be launched this November! They will put together their own network for the 1986 football season when they will go head-to-head against the NFL for the first time! RCA, which is launching the satellite, has offered free satellite dishes to broadcasters and 550 stations have accepted! The USFL will be able to televise up to 3 football games simultaneously to different sections of the country. Nine teams will make up the USFL for 1986 and all games are scheduled to be televised.

¶ **Scrambling** is still the big news in the backyard earth station business! Super station WOR is set to scramble full time effective March 1st - although test scrambling could begin by the time you read this. They will use the M/A-Com VideCipher II system (also adopted by HBO) which seems to be emerging as the standard. HBO scrambles their signals on January 15th (if you believe the publicity.) Showtime, Turner, CNN and many others are also set to encode their programming. The Justice Department is investigating whether cable operators violated anti-trust laws by convincing programmers to scramble.

¶ Meanwhile, representatives of the home satellite hardware industry, worried about how scrambling might affect them, are pushing bills in Congress to impose a two year moratorium on scrambling or guarantee home dish users scrambled programming at fair prices. Goldwater (K7UGA) is actively involved in making certain that costs are reasonable and that (\$400) descrambler boxes are available to the public before scrambling takes place. Goldwater is also on record as saying that he feels "scrambling legislation is premature at this time" since adequate competition does not yet exist in programming.

¶ It appears that SPACE (the home dish industry lobby group) has not been successful in getting Congress to go along with their wishes to delay satellite scrambling. Cable operators are developing systems which will enable them to charge private dish owners for programming. Programmers will scam-

ble their signals before beaming to the satellite. Cable operators will unscramble them at their receiving station. Decoder box owners will have their dishes turned on by electronic authorization downlinked with the signal.

¶ At this point, it appears that the satellite broadcast industry was dead wrong in assuming that the public wanted inexpensive hardware and good PPV (pay-per-view) satellite delivered programming. It now appears that the public will pay for expensive hardware if the programming is free! In any event, the high powered DBS (direct broadcast satellite) concept to 2 foot dishes seems to be one that won't fly (to be puny.) Cable operators are having trouble understanding why viewers are passing up \$10.00 monthly charges and shelling out \$2,000 (and up) for hardware. But it is a fact of life. In all of 1980, 4000 home dish sets ups were sold. Last year, 12,000 backyard earth stations were sold a week!

¶ But things aren't all bad for cable. **Cable penetration** has climbed to 46.2% of U.S. television households according to the A.C. Nelsen Company. Nearly 40 million homes have it. Cable operators are now racing to get into the hardware business now that the technology exists for them to sell (and lease) to the home dish market ...another headache for SPACE which is made up primarily of independent satellite hardware dealers!

¶ Another consumer satellite service that is just now developing is the **home paging market**. Satellite firms are emerging that have the capability to link paging companies together to locate anyone ...anywhere. Consumer firms are gearing up for the day when everyone carries a satellite pager or telephone. Downlinked paging signals can be distributed through a network of broadcast radio station subcarriers at virtually no cost!

¶ One high tech business that has not developed as anticipated is the dissemination of **electronic information**. On line publishing still lacks mass appeal. Only phone based financial information delivered to investor owned computers seems to be growing. At least one firm (McGraw-Hill) will be trying to deliver financial information to a home computer through cable TV lines.

I am a currently licensed Extra Class amateur radio operator and wish to be a volunteer examiner. I have never had my station or

WOULD YOU LIKE TO BECOME A VOLUNTEER EXAMINER?  
under "The W5YI Report" Program? If so please send a copy



# W5YI REPORT.....

Page #9

January 15, 1986

¶ Tandy (they are playing down the Radio Shack name) is taking dead aim on Big Blue. In a complete about face, Tandy now plans to market IBM clones almost exclusively! The Model 4 is the last remnant of the old thinking and its days are numbered. Tandy's new Model 3000 is basically an IBM-AT at \$1,000 less. Look for Tandy to spend millions to revamp its store fronts to a more professional, businesslike appearance.

¶ James C. McKinney, FCC chief of the Commission's Mass Media Bureau has been named by the State Department to head up the U.S. delegation to the ITU's Regional Administrative Radio Conference to be held in Geneva for three weeks beginning April 14th. McKinney used to oversee the private radio services (and ham radio) before being promoted. Prime topic being considered by the ITU nations is how the western hemisphere will add broadcast stations to the new AM spectrum between 1605 and 1705 kHz.

¶ Make no mistake about it, the day is coming when movies will be released first to cable Pay-Per-View instead of to theatres! Right now, the movie industry is trying to tap into the growing videocassette tape rental market, but they know their future lies in PPV. The cable industry is quietly outfitting homes with addressable boxes. Plan of paying extra to view portions of the 1988 Olympics!

¶ The FCC is looking into the need for Part 68 standards for computer controlled automatic telephone dialling equipment. They are particularly concerned about computerized polling, telemarketing machines, automatic redialling instruments and the possible excessive congestion to the telephone network that they cause. Comments close on February 1, 1986. The Commission has had many complaints from the public about the automatic voice machines.

¶ Canada won't be issuing amateur radio call signs that contain three letter suffixes that begin with the letter "Q." Although the United States routinely issues three letter "Q" suffix ham calls, the Canadian Department of Communications says that "the ITU has regulations which suggests administrations should not allow three letter call sign suffixes which

begin with the letter 'Q' or those letters which could be confused with distress, urgency or safety signals."

Canadian amateurs who previously have been issued call signs with "Q" suffixes will be approached and offered a new suffix by the DOC! If the amateur refuses to accept the proposed new suffix, he will be notified that if any problems or complaints are received from the ITU, or any of its' signatories or the DOC itself, the "Q" suffix will be withdrawn and a new one issued.

¶ In other Canadian news, the Jack Ravenscroft, VE3SR, trial for "interference to appliances" is expected to be held between the end of January and mid February. He has been ordered off the air as a result of a temporary injunction served him last July! A defense fund to pay his legal expenses stands at \$17,200.

¶ ELECTRONIC TRIVIA - The term "condenser" was born in 1745 when a scientist was experimenting with a Leyden jar. He reasoned that the electric charges were condensed in the jar. A Leyden jar was the original capacitor consisting of metal foil sheets on the inside and outside of a glass jar. The foil served as the plates and the glass as the dielectric. A hundred years later, Michael Faraday further studied the characteristics of capacitors.

Alessandro Volta judged a battery by the flash he saw when he touched its wires to his eyelids! Andre Marie Ampere showed that when current flowed through a suspended rectangular wire loop, the loop became magnetized and acted like a compass needle and pointed north.

George Simon Ohm discovered curious mathematical relationships between various electrical components in 1827. Ohm's source of electricity was a set of Leyden jars connected by brass rods. In 1831, Joseph Henry discovered that electricity is induced in a conductor as a result of a magnetic field. It led to the discovery of the transformer. None of these early electrical scientists every realized the magnitude of their discoveries - but they can never be forgotten.



## APPLE COMPUTER CHANGES DIRECTION!

Apple Computer had some pretty dramatic things to say during the last two Super Bowls. This year apparently they don't - so no Apple Super Bowl advertising this year. They introduced the "MacIntosh" during Super Bowl XVIII (1984). But at a half a million a minute, they will pass on this year's Super Bowl XX. Many people are very surprised!

Part of the reason might be ex-founder Steve Jobs. He hired away five of Apple's top men and timed the announcement to upstage an Apple important news release. Jobs is being sued by Apple management in Santa Clara Supreme Court.

Another reason might be that Apple no longer is in an entrepreneurial posture - instead they are establishing that they are a well run consumer marketing company. They earned \$52 million last quarter - their best ever! It was much better than Wall Street had anticipated. The improvement reflects significantly higher margins resulting from the company's massive reorganization.

Apple is expected to announce a series of new products in early 1986 and the general feeling was that the Super Bowl would be the vehicle. Apparently not. A "new" MacIntosh was expected with 1 MByte of memory and a faster operating system, among other goodies. We also understand that Apple will be releasing its propriety computer architecture in an effort to break into the IBM dominated business market. A major revision of the 7-year old 8-bit Apple II to 16/32-bit technology also is coming to compete with the Commodore Amiga and the Atari 520ST - perhaps the two best sellers this past Christmas.

Jack Tramiel, the flamboyant ex-head (he was fired) of Commodore International, hit it big and has a winner in his Atari 520ST. They shipped over 100,000 of them last fall and will make a handsome profit! No small feat when you figure that Atari lost some \$670 million the past two years before he took it over! Now that the ST is in wide distribution, it will be interesting to see if the needed software follows. The Tramiel comeback rivals that of Chrysler's Lee Iacocca!

## UNIVERSITY OFFERS HAM CLASS CREDIT!

Kansas State University's Amateur Radio Theory course gets underway on January 20th! The class is headed up by Doris Grosh, NOØD, (a KSU professor) and president of the Manhattan Area Amateur Radio Society. The general engineering course (#DEN-201) carries 3 hours of college credit and already has 14 K-State students registered.

The course, held at KSU's Durland Hall, will have as its final semester exam the FCC General Class license exam coordinated by W5YI! We believe that this is the first ham radio class where college credit towards graduation is offered! KSU tuition is \$134.50 and includes 45 hours of lecture with emphasis placed on mathematics.

## 1986 - FIFTIETH BIRTHDAY OF THE 6L6

Once upon a time, most amateurs built their own rigs and Dean Manley, KH6B, of Hilo, Hawaii, has an idea that might show 'the new breed' what amateur radio used to be like. It's called "Project 6L6" and offers the new licensee, an ideal chance to explore new territory.

1986 is the fiftieth birthday of the 6L6 tube! QST mentioned the 6L6 for the first time in May 1936! RCA Radiotron had just introduced the beam-power amplifier tube. RCA developed the 6L6 for power output applications in audio amplifiers. June 1936 QST showed the 6L6 as a crystal oscillator.

Manley suggests a club project building a simple 6L6 rig and then putting it on the air. Possibly a 6L6 Worked All States certificate could be awarded. He said the circuit should be a simple one or two tube circuit using a 6L6 or 6L6G in the final. CW crystal control is not essential "but it does make life easier. "Perhaps Heising modulation for those who insist on microphones."

Manly said that the idea was recently tossed around at a recent meeting of the Big Island Amateur Radio Club in Hawaii. Anyone interested? You can contact Dean Manley KH6B at: 2058 Ainaola Drive; Hilo, Hawaii 96720. (808) 959-8257